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MAIL STOP APPEAL BRIEF-PATENTS
PATENTS
8040-1011

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re application of

Hiroshi AOKI

Serial No. 09/589,511

Filed June 8, 2000

MOBILE RADIO SYSTEM CAPABLE OF RESETTING IN AN IMPROPERLY SET VPI/VCI

Appeal No.

Conf. 1281

Group 2665

APPEAL BRIEF

MAY IT PLEASE YOUR HONORS: July 9, 2004

1. Real Party in Interest

The real party in interest in this appeal is the assignee, NEC Corporation of Tokyo, Japan.

2. Related Appeals and Interferences

None.

3. Status of Claims

Claims 1-11 are pending, from whose final rejection this appeal is taken. A listing of the claims attached.

4. Status of Amendments

No amendment has been filed subsequent to the Final Rejection (Official Action of December 12, 2003, paper number 3).

5. Summary of Invention

The invention is best understood having reviewed the prior art. As per specification pages 1-2 and illustrated by Figure 1, a prior art mobile radio system comprises a plurality of radio base stations (11) each connected, in asynchronous transmission mode (ATM), to a base station control apparatus (12). The base station control apparatus assigns each radio base station a unique VPI/VCI identifier. The radio base stations then can accept message signals based on whether the value of the VPI/VCI, found in an ATM cell header, matches the assigned VPI/VCI identifier for that based station.

When a prior art radio base station malfunctions, e.g., sets an incorrect VPI/VCI value, it is necessary for a person to go to the place where the malfunctioning radio base station is installed in order to reset the malfunctioning radio base station.

As discussed at specification page 4, beginning with line 6., a radio base station, upon start up, is intended to be allocated VPI/VCI = "1" by base station control apparatus. However, the base station control apparatus may, due to error in transmission, actually allocate VPI/VCI = "2" to the radio base station. A central processing unit (CPU 11b) of the radio base station sets VPI/VCI = "2" as the VPI/VCI filter.

As a result of the error in VPI/VCI allocation and setting the VPI/VCT filter, the base station control apparatus recognizes that the radio base station as having a VPI/VCI = "1" but the radio base station itself has set its VPI/VCI = "2". Therefore, the base station control apparatus uses VPI/VCI = "1" in transmitting a message signal to the radio base station. Inasmuch as the VPI/VCI filter has set VPI/VCI = "2", the radio base station abandons the message signal having VPI/VCI = "1" and turns on a light to indicate an error. Retransmission from the base station control apparatus to the radio base station also results in an error, and, as a result, it is necessary for a person to go to the place where the specific radio base station is installed in order to manually reset the specific radio base station.

The present invention solves the problem of having to manually reset a radio base station malfunctioning due to having an incorrectly set VPI/VCI. Reference is made to application Figure 3 and the disclosure beginning the paragraph spanning pages specification pages 6-7.

In essence, the radio base station of the invention comprises a first means for comparing the VPI/VCI in an ATM cell header with the radio base station's registered VPI/VCI to determine whether to accept or to abandon a received message signal and a second means for placing the first means into a reset state when the first

means continues to abandon the message signal during a predetermined time duration.

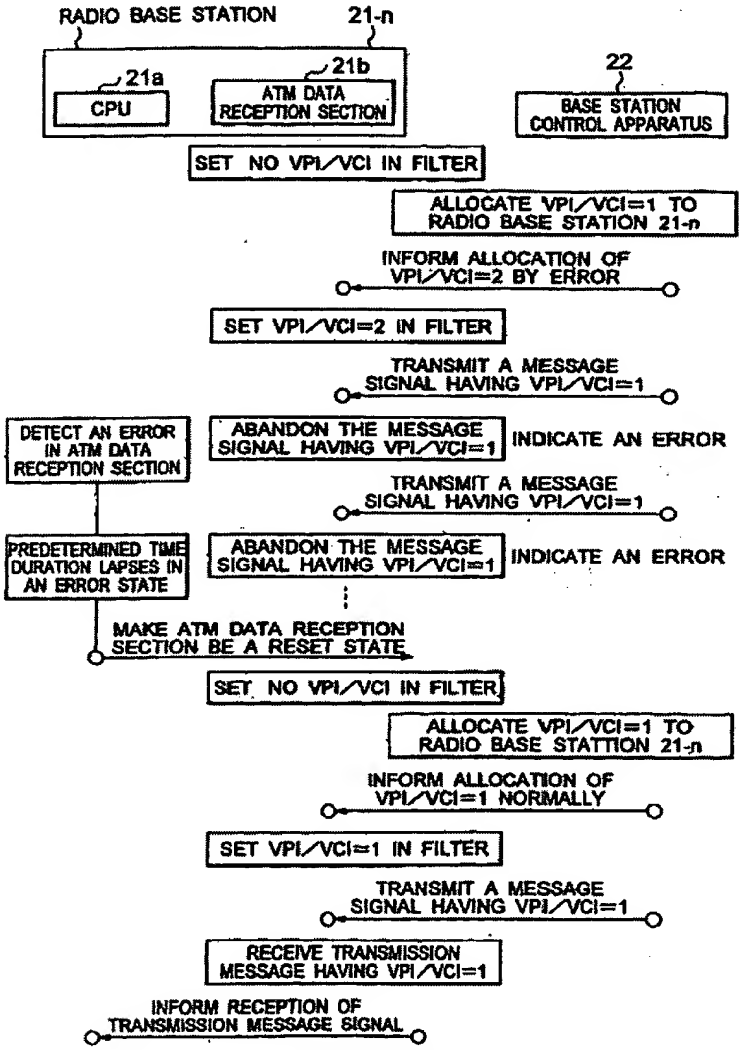


FIG. 3

Referring to Fig. 3, assume that an n-th radio base station (21-n) starts in accordance with a start-up sequence and the individual VPI/VCI has not been set. Also assume that the base station control apparatus (22) intends

to allocate VPI/VCI = "1" to the radio base station, but that the base station control apparatus instead allocates VPI/VCI = "2" (by mistake such as a line error).

The radio base station receives the allocation signal of the CPU (21a Figure 2) and sets VPI/VCI = "2" in a VPI/VCI filter. As a result, the base station control apparatus believes the radio base station has been assigned the individual VPI/VCI = "1", but in fact "2" has been set. Therefore, the base station control apparatus makes transmissions to this radio base station, using VPI/VCI = "1". Inasmuch as the VPI/VCI filter actually has been set to VPI/VCI = "2", the radio base station abandons the message signal (since VPI/VCI = "1" in the message signal) and indicates an error. When the base station control apparatus retransmits (again with VPI/VCI = "1"), the radio base station again abandons the message signal and indicates an error.

That is, the ATM cell reception section (21b Figure 2) becomes an error state when the transmission VPI/VCI is not coincident with the individual VPI/VCI and a duration time of this error state begins. In the invention, after going into an error state, when the error state continues for a predetermined time duration, the CPU resets the ATM data reception section to place the VPI/VCI filter in a "no-set" condition.

After the CPU resets the ATM data reception section, the base station control apparatus again transmits an allocation signal having VPI/VCI = "1" to the radio base station. Upon receiving the allocation signal (VPI/VCI = "1"), the CPU sets VPI/VCI = "1" in the VPI/VCI filter and the radio base station begins correcting accepting message signals.

Since each of the radio base stations carries out a reset upon the error state continuing for the predetermined time duration, it is unnecessary for a person to go to a place where an error radio base station is installed in order to reset the error radio base station.

6. Issue

The single issue on appeal is whether claims 1-11 were properly rejected as unpatentable under §103(a) as being obvious over Applicant's disclosed prior art ("Disclosed Prior Art") in view of PASTERNAK et al. 5,648,969 (PASTERNAK).

7. Grouping of Claims

The claims stand or fall together.

8. Arguments

In claim 1 there is recited a "second means for making said first means become a reset state when said first means continues to abandon said transmission message signal

after a predetermined time duration." In claim 7 there is recited that "after the error state continues for a predetermined time duration, the central processing unit resets the ATM data reception section to place the individual VPI/VCI value to a no-set condition." In claim 9 there is recite that "the selected base station further comprising means for resetting the individual VPI/VCI value at the selected radio base station to a no-set condition, upon the error state continuing past a predetermined time duration."

The issue at hand is whether this "Reset Means" feature of the invention is obvious over the Disclosed Prior Art in view of PASTERNAK.

In the Final Rejection (Official Action paper 3), the Examiner acknowledges that the Reset Means is not part of the Disclosed Prior Art. See, e.g., lines 2-5 of page 7.

The Examiner relies on PASTERNAK column 6, lines 35-54 as the basis for concluding that the Reset Means is obvious (page 7, lines 5, *et. seq.*). This cited passage concerns PASTERNAK Figure 10.

The Examiner indicates that this passage teaches having a VPI/VCI table capable of automatic updating, where the table includes a predetermined time duration (time stamp) to time-out connections when traffic is not received. The Examiner believes that this teaching would motivate one of skill to modify the manual reset of the Disclosed Prior

Art with an automatic reset based on a "no traffic time-out."

Appellant believes that the Examiner's understanding of PASTERNAK is incorrect.

Further, Appellant believes: i) that this teaching does not provide motivation for the suggested modification to the Disclosed Prior Art and ii) that even if the PASTERNAK teaching was applied to the Disclosed Prior Art, the resulting structure would not meet the recitations of the Reset Means.

The ***teaching*** of PASTERNAK et al. is to maintain a table as illustrated in Figure 10. This would lead one of skill to incorporate, within the base station control apparatus, a "Figure 10 table". The claims' Reset Means recitations are directed to the individual radio base stations themselves, not to the base station control apparatus.

Thus, there is no motivation to modify the radio base stations. Any motivation would be directed to the base station control apparatus. Modifying the base station control apparatus does not satisfy the claim recitations of a Reset Means within the base radio stations.

Further, PASTERNAK does not teach using the time-out to reset an individual base station, and further does not place the base station in a "no-set condition".

Rather, PASTERNAK only teaches to have the base station control apparatus to stop monitoring the inactive VPI/VCI value based on the Figure 10 table information, making the inactive value available for reassignment elsewhere. That is, PASTERNAK teaches to time-out based on inactivity to free inactive VPI/VCI values.

PASTERNAK teaches to act (to time-out) based on inactivity which is a test based on the absence of activity and not on a duration of an error condition as recited. Thus, even if the PASTERNAK time-out teaching were applied to the base stations, the result would be to act based on inactivity and not to reset based on both an error condition and an elapsed time period of the error condition.

Further, the factual settings of the present invention and PASTERNAK are different.

In the error condition being addressed by the present invention, a message correctly sent to the base station, but not accepted due to VPI/VCI error, is resent. The message being repeatedly resent without acceptance is what necessitates the manual reset of the base station in the Disclosed Prior Art of Appellant's Figure 1.

In the PASTERNAK system, the resending of the message would keep the connection from being reset as the inactivity time-out condition is not met.

Part of the confusion here appears to be the Examiner stating "… when traffic is not received" on page 7,

line 7. Appellant believes that a proper understanding of PASTERNAK would be to say there is a time-out when traffic is **not being sent**.

The PASTERNAK Figure 10 table for all VPI/VCI is used to track activity on each individual VPI/VCI, i.e., ***activity by base station control apparatus to plural base stations***. This is a function of the base station control apparatus and reflects traffic being sent.

Thus, the teaching is to update a VPI/VCI table to reflect activity on the **transmission side** so as to allocate service for cell transmission only on pathways that have transmission demand. When disclosing the strategy to erase expired connections (connections in which no transmissions are being sent), the teaching is stop tracking inactive connections (no traffic being sent) in order to track the active connections and allocate connections to pathways having traffic. When traffic on any connection resumes, tracking/allocation would resume and a new VPI/VCI would be assigned.

Again, however, this teaching is not that recited by the Reset Means.

There is no suggestion in PASTERNAK as to monitoring elapsed time between incoming messages, and certainly no teaching as to measuring elapsed time subsequent to an error condition being set.

This being the case, the Examiner is in error as there is no teaching to provide motivation for the suggested modification to the Disclosed Prior Art and even if the actual teachings of PASTERNAK were applied to the Disclosed Prior Art, the resulting structure would not meet the recitations of the Reset Means.

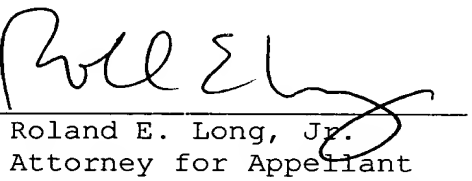
9. Conclusion

In view of foregoing, it follows that the rejection of claims 1-11 is improper and should be reversed.

Reversal of this rejection is accordingly respectfully solicited.

Respectfully submitted,

YOUNG & THOMPSON

By 

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10. Appendix

The claims on appeal:

1. (previously presented) A mobile radio system comprising:

a base station control apparatus; and

first through N-th radio base stations, the base station control apparatus for controlling the first through N-th radio base stations each of which is connected to said base station control apparatus,

where N represents a positive integer which is greater than one,

said base station control apparatus transmitting first through N-th individual identifiers as first through N-th station identifiers to said first through said N-th radio base stations to allocate said first through said N-th individual identifiers to said first through said N-th radio base stations, respectively, on a start-up sequence of each of said first through said N-th radio base stations,

said base station control apparatus transmitting a transmission message signal having an n-th individual identifier as a transmission individual identifier to an n-th radio base station to carry out a link connection between said base station control apparatus and said n-th radio base station,

where n is a variable between one and N, both inclusive,

wherein said n-th radio base station comprises:

first means for comparing said transmission individual identifier with said n-th station identifier to abandon said transmission message signal when said transmission individual identifier is not coincident with said n-th station identifier; and

second means for making said first means become a reset state when said first means continues to abandon said transmission message signal after a predetermined time duration.

2. (original) A mobile radio system as claimed in Claim 1, wherein the base station control apparatus is connected to each of said first through said N-th radio base stations by an ATM fashion.

3. (original) A mobile radio system as claimed in Claim 2, wherein said transmission individual identifier is transmitted in VPI/VCI of an ATM cell from said base station control apparatus to said n-th radio base station.

4. (original) A mobile radio system as claimed in Claim 3, wherein said base station control apparatus again carries out said start-up sequence of said n-th radio base station when said second means makes said first means become said reset state in said n-th radio base station.

5. (original) A mobile radio system as claimed in

Claim 3, wherein the first means produces an error to indicate said error when said transmission individual identifier is not coincident with said n-th station identifier.

6. (original) A mobile radio system as claimed in Claim 3, wherein said first means comprises a VPI/VCI filter for filtering said transmission message signal to obtain said transmission individual identifier from said transmission message signal, said VPI/VCI filter judging whether or not said transmission individual identifier is coincident with said n-th station identifier.

7. (previously presented) A mobile radio system, comprising:

a base station control apparatus; and

plural radio base stations connected in an ATM fashion to the base station control apparatus,

the base station control apparatus, at start-up, configured to assign an individual VPI/VCI value to each radio base station,

the base station control apparatus configured to transmit a message signal comprising a transmitted VPI/VCI value as part of the transmitted message signal to a selected base station,

each radio base station comprising a central processing unit and an ATM data reception section for filtering the transmitted message signal based on the

transmitted VPI/VCI value so that the selected base station, upon receipt of the transmitted message signal, compares the transmitted VPI/VCI value within the transmitted message signal to the individual VPI/VCI value assigned to the selected base station,

wherein, when the transmitted VPI/VCI value is coincident with the individual VPI/VCI value, the message is accepted and when the transmitted VPI/VCI value is non-coincident with the individual VPI/VCI value, the message is abandoned and an error state is indicated by the central processing unit,

after the error state continues for a predetermined time duration, the central processing unit resets the ATM data reception section to place the individual VPI/VCI value to a no-set condition.

8. (previously presented) The system of claim 7, wherein after the error state continues for a predetermined time duration and the central processing unit resets the ATM data reception section to place the individual VPI/VCI value to a no-set condition, the base station control apparatus transmits an allocation signal with the individual VPI/VCI value to the selected radio base station.

9. (previously presented) A mobile radio system, comprising:

a base station control system and plural radio base stations,

the base station including means for assigning individual station identifiers to each radio base station, and means for transmitting a message comprising a transmitted VPI/VCI value to a selected radio base station,

the selected radio base station comprising means for comparing the individual station identifier assigned to the selected radio base station with the transmitted VPI/VCI value, wherein,

when the assigned individual station identifier coincides with the transmitted VPI/VCI value, the message is accepted and when the assigned individual station identifier is different from the transmitted VPI/VCI value, the message is abandoned and an error state is initiated,

the selected base station further comprising means for resetting the individual VPI/VCI value at the selected radio base station to a no-set condition, upon the error state continuing past a predetermined time duration.

10. (previously presented) The system of claim 9, wherein,

the plural radio base stations are connected to the base station control apparatus in an ATM fashion,

the base station control apparatus, at start-up, transmits the individual VPI/VCI value to each radio base station,

each radio base station comprises a central processing unit connected to an ATM data reception section,

when the message is abandoned the error state is initiated by the central processing unit, and

the central processing unit provides the reset of the individual VPI/VCI value, upon the error state continuing past the predetermined time duration, to place the individual VPI/VCI value to the no-set condition.

11. (previously presented) The system of claim 10, wherein upon the error state continues past the predetermined time duration and the central processing unit resets the ATM data reception section to place the individual VPI/VCI value to a no-set condition, the base station control apparatus is triggered to transmit an allocation signal with the individual VPI/VCI value to the selected radio base station to change the no-set condition to the individual VPI/VCI value.